



Remarks

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DEC - 3 2002
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Claim Rejections - 35 USC 112

Claims 1-3, 5-10, 13-15, 17-19, 21-23, 25-31, 33-36, 38-41, and 43 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Discussion of "Symmetry"

The Examiner recites part [00033] of page 7 of the Specification in numbered portion 2 of the Specification. We respectfully point out that this portion is an explanation of [00032] and the embodiment of Figs. 3a-3c (cf. "in this case"). This is not an embodiment of claim 1, but of claims 2, 3, 4 (specifically), 36, 37, 44 and the dependent claims. We also respectfully point out that there is no rule that an embodiment of a specification needs to fit all of the claims.

The Office Action notes some confusion regarding the meaning of "symmetry". We respectfully believe that, in numbered portion 2 of the Office Action, the Examiner's comprehension of the term "symmetry" is improperly narrow, as the sentence in portion 2, page 2 demonstrates: "The direction of the line of symmetry Applicant is claiming is unclear, e.g., vertical symmetry, horizontal symmetry, or some other plane of symmetry." A person of ordinary skill in the art would easily identify the symmetries corresponding to the shape of an optical element. For example, in McCrary, Fig. 1, spherical lenses 10a, 10b are obviously mirror symmetric about (optical) axis 20. If this were not the case, the drawing of only a half plane in McCrary would make no sense. Also, the lenses are rotationally symmetric by any angle around axis 20 and they are mirror symmetric about any line radially intersecting the axis 20.

After having determined the symmetry properties of the body (of a lens or prism or the line) or the surface (of a mirror), this is of the shape of the optical element, by defined geometric

rules. One will, in the same manner, identify a symmetry of a heat supply. Either this has all the same symmetry properties as the shape of the optical element, or it lacks symmetry corresponding to the shape.

In an optical device as McCrary's missile seeker (col. 2, line 35), the energy of light input is so low that a heat supply from this radiation is negligible. The same holds for most other imaging optical systems. Consequently, even the paragraph of claims 1, 2, etc.: "wherein said optical element is acted on by said radiation such that a heat supply results from said radiation" is strange to McCrary.

Discussion of Fig. 2

The Examiner expresses being puzzled by Fig. 2. On the second to the last paragraph, page 2 of the Office Action, eight webs are cited. Contrary to this notation, Fig. 2 shows what is described in parts [00029] and [00031]. The number of webs 211-214 is shown as four, but "in practice there are more." These four webs are shown to be located in four-fold rotational symmetry, but their form is different: 211, 213 are broad; 212, 214 are narrow. Therefore, only two-fold rotational symmetry and mirror-symmetry to two axes intersecting either 211, 213 or 212, 214 are found in the connecting structure. This does not correspond to the shape of the optical element 1, a lens with full rotational symmetry and mirror symmetry to all radial axes, as numerous symmetries are missing in the connecting structure.

It is not relevant that the "webs have lines of symmetry that correspond with the lines of symmetry of the optical element in, at least, the x, y and z planes", per the statement of the Office Action on page 2, point 2. What is relevant is that the essential symmetries of the lens are missing. However, the heat supply from light spots 101, 102 shows obviously the same symmetry as the connecting structure of webs 111-114, not corresponding to the shape of the

optical element 1. Consequently, the Fig. 2 embodiment very obviously teaches the subject of claim 1.

Claims 2, 3, 36 and 43 (cf. Office Action page 2, last sentence) do not include any language as cited in the action. They all do not contain any recital of a “connecting structure”.

All claims are clearly exemplified by the various embodiments and the language is readily understood in view of these embodiments.

Claim Rejections under 35 USC 103

Claims 1-12 and 17-44 stand rejected as being unpatentable over Tanaka in view of McCrary.

Valid rejection under 35 USC 103(a) requires evidence of a suggestion or motivation for one skilled in the art to combine prior art references to produce the claimed invention. US Court of Appeals for the Federal Circuit (*Ecolochem inc. v Southern California Edison Co., Fed. Cir.*, No. 99/1043, 9/7/00).

The best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for showing a teaching or motivation to combine the prior art references, according to the court.

Tanaka and McCrary do not motivate or suggest to one skilled in the art to combine these references to produce Applicant’s claimed invention.

Recently, in *In Re Sang-Su Lee* (00-1158) the Court of Appeals for the Federal Circuit rendered a decision confirming the above principles. The court analyzed 35 USC 103 requirements starting from the Administrative Procedure Act and held (citations omitted):

“Tribunals of the PTO are governed by the Administrative Procedure Act, and their rulings receive the same judicial deference as do tribunals of other administrative agencies.

“The Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of “reasoned decision making.” Not only must an agency’s decreed result be within the scope of its lawful authority, but also the process by which it reaches that result must be logical and rational.

“As applied to the determination of patentability vel non when the issue is obviousness, it is fundamental that rejections under 35 USC §103 must be based on evidence comprehended by the language of that section. (Emphasis added). When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. (Emphasis added)

“The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. There must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Applicant. Teachings of references can be combined only if there is some suggestion or incentive to do so.”

As stated above, Tanaka and McCrary do not motivate or suggest to a person skilled in the art to combine these references to duplicate the claims of the present invention.

In Fig. 3 of Tanaka '077, as recited in the Office Action (page 3, point 4), describes a focus detecting system (col. 2, lines 15-55). This is a subsystem of the projection optical apparatus (title), of which persons skilled in the art of such apparatus knows that it is a low-energy system (see lines 17-19), which will not disturb the wafer, where no thermal effects of any relevance will occur in the relatively simply optical system 17. So, Tanaka in no way provides information an ordinary person skilled in the art would consider, whether alone or in combination.

Where Tanaka, outside the parts cited in the Office Action, deals with thermal effects, Tanaka provides an electronic control loop (See thermal effects). Tanaka provides an electronic control loop (see Abstract of the Disclosure and Figs. 1 and 2), but Tanaka never discusses heat effects within one optical element, and adds nothing to this topic beyond what was cited in [0004] and [0005] of the present invention.

In regard to McCrary, McCrary has been discussed above.

Rejection of Claims 13-16 in view of Tokuhara

Claims 13-16 stand rejected over Tanaka in view of McCrary and Tokuhara et al.

Tokuhara relates to a photocopying machine having a slit illumination and imaging, and the machine has some mirrors. Tokuhara deals with a stop plate for making illumination uniform.

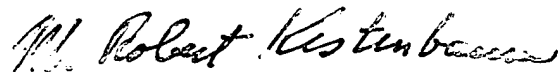
Nowhere in Tokuhara is there any hint concerning thermal effects anywhere on any mirror, and consequently, no hint to a mode of dealing with such thermal effects is found.

Therefore, Tokuhara does not relate to the art of the present invention, and cannot add anything to Tanaka or McCrary.

A one-month extension of time in which to respond to the outstanding Office Action is hereby requested. Credit Card Payment Form PTO-2038 is enclosed to cover the prescribed Large Entity one-month extension fee of \$110.00. Please charge any additional fees or credit any overpayments to Deposit Account 11-0665. A duplicate of this page is enclosed for this purpose.

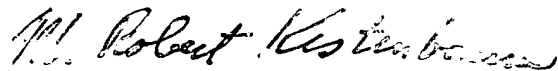
Wherefore, further consideration and allowance of the claims in this application is respectfully requested.

Respectfully submitted,



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I hereby certify this correspondence is being deposited with the U.S Postal Service as a first class mail in an envelope with adequate postage addresses to Commissioner for Patents, Washington, D.C. 20231 on November 23, 2002.



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